

AN EXPERIMENT
IN
CONTINUATION EDUCATION FOR
SCHOOL LEAVERS
AFTER
THE COMPULSORY EDUCATION AGE
LIMIT OF ELEVEN

A report on the experiment conducted

by

*The G. K. Institute of Rural Education
Gargoti, Dist. Kolhapur*



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Studies in Rural Education

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IN COLLABORATION WITH

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PREFACE

THIS report gives an account of the experimental work done in connection with the running of Continuation Education Classes for School Leavers after Grade IV. Such a scheme of Continuation Education will have to be a part of Rural Education System, when Compulsory Education is extended to the age-range of 11-14. The report gives in detail the curriculum, syllabuses, teaching methods and the organisational problems of such classes which were run under the experiment. The G.K. Institute of Rural Education, which conducted the experiment is extremely grateful to the National Council of Educational Research and Training, New Delhi, for the financial assistance given by it for the experiment. The Institute is also grateful to the school authorities of Kolhapur District, for permitting teachers serving under them, for running the classes and for using school buildings and equipments for these classes.

Gargoti

D. V. CHICKERMANE

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CHAPTER I

Continuation Education—Concept and Need

PRESENT report gives an account of an experiment in "*Continuation Education for School Leavers*" conducted in the rural areas of the Maharashtra State of India. To understand the rationale of this experiment and the need for such experimentation, the concept of continuation education and its scope as is implied in this experiment need to be defined, before the details, the experiment proper are referred to.

I.2 Continuation education has been given different meanings in different situations. It usually means a scheme of education for a person who has discontinued his education for one reason or the other. Such a scheme, therefore, implies that there are some persons who have discontinued their education before completion. Such persons need to be given further education for cultural as well as professional development. Such education is the responsibility of continuation education. The type of education to be given will depend upon the stage at which education has been discontinued and the needs of persons who discontinued their education. Naturally, continuation education in one set of situations will not be identical with continuation education in another. It will differ with persons who have discontinued their education and their needs.

I.3 A concrete example will show how continuation education can vary. In the Western countries, universal compulsory education

extends to the age of sixteen. In these countries a child can leave school after the age of sixteen. Such a person takes up a vocation after the completion of his compulsory education, perhaps, education in a modern school as in England, and will therefore, need a type of education to improve his vocational competence. The type of continuation education in this case has a greater vocational bias and imparts to the person theories, techniques and skills of an advanced type in the vocation selected by him. This person has a fair amount of general education in his school upto the age of sixteen. He does not need further general education and he would not profit much by further education of a purely general type.

I.4 On the other hand, in this country, the Constitution provides for universal, free, compulsory education upto the age of fourteen. Owing to several difficulties, however, the age limit of fourteen has not been reached all over India, and only in some parts of Indian Union, is expected to be reached by the end of the Third Five-Year Plan in 1966. In most of the States, it is eleven years. Thus the age of compulsory education for a child in India at present is limited to eleven years. As such, many children in rural areas discontinue their education at this stage, after completing about four to five years of education. These students have received a quantum of general education, which is inadequate to meet the needs of life. Therefore, such children need a further course of general education, which they have missed by leaving school. A scheme of continuation education in such a situation will differ radically from the one mentioned earlier and will have to provide a course in general education for children who have discontinued their education at eleven plus or thereafter. The scheme of continuation education, as is envisaged in this experiment, is intended, therefore for children who have left school after a four years' course of primary education.

I.5 To decide the need and the nature of such a scheme and the contents of a course offered under it, it will be necessary to find out why these children leave school without completing the full course of primary education and what they are doing after leaving school. The State of Maharashtra provides a seven years course of primary education. It is meant for children of the age-range of seven to fourteen. This course covers the minimum of general education

required for one taking up a vocation after fourteen. It includes in it the three 'R's and information. The syllabus is divided into two stages, lower primary for grades I-IV which forms part of the age-range of compulsory education of 7-11 and upper primary for grades V-VII corresponding to the age-range 11-14. Since, the first four grades come under the scheme of compulsory education, the State has opened schools in all villages, for grades I-IV. In small villages, it has opened one-teacher schools where one teacher teaches all the four grades. But, upper primary classes are not provided in many schools. In fact, the percentage of single-teacher schools is more than 50. In the Bhudargad Taluka, the area where the present experiment of continuation education was conducted, the percentage of single-teacher schools is as high as 60. This implies that children learning in these schools have to shift to neighbouring bigger villages for higher education after grade IV or remain without education. Some parents agree to send their children to bigger villages. But others do not. This is one of the reasons why children in rural areas discontinue their education after grade IV.

I.6 Farmers need their children for farm-work or domestic work. A farmer needs his boy to do odd jobs on the farm and to tend cattle. Women folk need their daughters to take care of children at home while they are out for work. In some cases parents are poor and they want children to supplement the family income. Such boys work on the bus stands to carry luggage or work in tea stalls as servers or cleaners.

I.7 The nation plans to provide for universal free compulsory education of all children of the age-range of 6-14. Owing to financial and other difficulties, it has been able at present to bring this compulsion upto the age-range of 11. But plans are ahead for providing compulsory education for the upper age-group of 11-14 as early as possible as this group cannot be excluded for an indefinite period from the sphere of compulsory education.

In accordance with the directive of the Constitution, children are to receive education upto the age of fourteen. A part of this directive has been fulfilled or is being fulfilled by providing for compulsory education upto the age of eleven. The later part, upto fourteen, remains to be completed. We are now at the threshold

of compulsory education for the age-range of 11-14. We shall be undertaking expansion in this direction at the end of the Third Five-Year Plan, by 1966.

During the first stage, upto eleven, the scheme envisaged a common type of education for all. There was no differentiation or a parallel system of education. Our experience of the working of this part of compulsion from seven to eleven, has shown that all children do not attend schools. Some children keep out, either owing to poverty or their need for domestic service. Happily, the number of children attending is steadily increasing. The enrolment figures for the age-range of seven to eleven are quoted between eighty and ninety per cent, while attendance figures average between fifty and sixty per cent.

I.8 When we extend compulsory education to the age-range of 11-14 it is felt that a uniform pattern for all will not succeed. By uniform pattern, we mean the present pattern of upper primary education for grades V-VII, corresponding to ages 11-14.

When we take into account the question of the age-group of 11-14, we shall have to devise at least in the earlier stages, a pattern which will fit in with the circumstances in rural areas. This pattern will have to take into account the following circumstances:

- (i) It will not be possible for us to provide for full grade primary schools teaching from grade V-VII and thus, cater to the age-range of 11-14 in every village.
- (ii) Owing to poverty of the rural folk, it will not be possible to enforce effective compulsion on children of the age-range of 11-14 to attend the day schools of the type we have, wherein children have to attend schools for six hours a day. Children, who are required to work for family, will evade or frustrate such compulsion.

I.9 These two circumstances are the genesis of the present experimental scheme of continuation education.

It follows from this that we need an alternative pattern of education meant for children who will not be in a position to attend full-time day-schools in grades V-VII. This pattern will have to be a substitute for the full-time day schools for these children and will have to satisfy the following requirements:

- (1) Firstly it should be of a part-time nature. Since children will be engaged in some kind of occupation during the major part of the day, they will not be in a position to spare much time for school education. They can attend schools only for two or three hours in the evenings.
- (2) Secondly, it should be suited to the needs of rural areas. The major group who will be attending these schools will be from rural areas. In fact, this type of education may be considered to be an integral part of rural education. This education should give the children a better understanding of the requirements of rural life and citizenship.
- (3) Thirdly, this should be a type of education which can be administratively easily managed in rural areas. It will not be possible to provide independent schools for such a type of education. They will be costly and at the same time may not get adequate strength.
- (4) Fourthly, this type of education should make use of such modern psychological trends that a great quantity of matter is packed and delivered to children within a comparatively short period so that children do not suffer for having left school. They will get what is essential, through these evening classes within a short time.

L.IO This is, in short, the concept of continuation education that was developed and tried out in this experiment. Great need for evolving a pattern for this type of education, and to make it a part of the scheme of universal free compulsory education for the age-range of 11-14 is quite obvious. Children who cannot attend full-time day schools will have to be compulsorily required, under the scheme of compulsion, to attend the continuation education classes for the age-range of compulsion, if they are not to remain without education.

L.II The need for such a system of continuation education has also been recognised in schemes dealing with universal, free and compulsory education.

The pattern to be evolved for such a scheme would, therefore, include the following details:

- (a) Syllabuses for the different age-ranges corresponding to

the grades V, VI and VII.

- (b) Study literature for students and source material for teachers, which will form part of the teaching methods and teacher education.
- (c) Details of organisation and administration of such classes in rural areas for the benefit of children who cannot attend full-time day schools; and
- (d) A recognition to the course and work done by pupils in the form of examinations, and certificates, so that children can have an inducement to attend these schools, other than mere compulsion under law.

Shri J.P. Naik has listed this topic among the schemes of research needed in elementary education and has observed as under:

“Very little work on this problem has been done, so far. Studies are needed for evolving curricula and special methods of teaching for part-time education. A good deal of experimental work is also necessary to find out the difficulties which these institutions will have to face and the manner in which they should be overcome. Orientation of teachers in the techniques suited to these institutions is another problem that needs investigation”.*

I.12 This experiment was, therefore, an attempt in this direction. The experiment aimed at evolving syllabus for continuation schools and trying it out for a year, in some continuation classes. During the course of the experimental work, the various problems of organisation, such as teacher-orientation, pupil attendance, provision of source materials, were studied.

*Indian Year Book of Education, Second Year Book—1964, NCERT, page 418.

CHAPTER II

The Experiment of Continuation Education- Design of the Experiment

IN the last chapter, the concept of continuation education as accepted for the purpose of experimentation in this project has been explained. This chapter gives the outline of the design of the experiment. The idea that an experiment in this field of education should be conducted was conceived by Shri J.P. Naik, as early as 1956 and a scheme was proposed to the then Government of Bombay, for organising continuation classes under the supervision of Graduates' Basic Training Centres. Two areas for such experimentation—one at Dhulia and the other at Gargoti, the venues of the G.B. T.C.S.—had been selected in the Maharashtra area. A survey of students who had left school after grade IV was also conducted at Gargoti. But, somehow, further work did not materialise and the schemes were dropped. A second effort in this connection was made by this Institute when a scheme for conducting an experiment in continuation education was submitted to the Ministry of Education, Government of India, in 1960. This was finally accepted by the National Council of Educational Research and Training, under their scheme of Grant-in-Aid for Research in Education.

II.2 The Scheme submitted involved the following items :

(1) *Syllabus*: A draft syllabus which was to be tried out in some schools to be run for the continuation education. The syllabus consisted of six subjects and is discussed later in this chapter.

(2) *Administrative arrangement and duration of the course and the experiment:* The administrative arrangement was to attach these continuation classes to such of the primary schools as agreed to run them. The Scheme proposed for five such classes for the duration of one academic year or ten months.

(3) *Orientation of teachers in the syllabus and teaching methods for these classes:* Since the syllabus was drawn up taking into account the needs of village boys, it differed much from the traditional school syllabus. The contents of the syllabus were different and as such the teachers who undertook these classes had to be given periodical orientation in the subject matter of the syllabus.

(4) *Provision of teaching materials and source matter for teachers and pupils who agreed to join these classes:* Since the syllabus and teaching methods differed considerably, the textbooks now in use in the upper grades of primary schools were not suited for these classes. Moreover, since the time available for pupils' work in the class and self-study was comparatively less than that available for full-time day schools, it was necessary to provide the scholars of these classes with predigested reading materials for self-study.

(5) *Evaluation:* The fifth item in the Scheme was the periodical evaluation of the work done in these classes. Systematic records of all reading materials and written work done by pupils had to be maintained. These served as a basis for evaluation. Besides these, quarterly evaluation tests were to be arranged and were to serve more as tutorials rather than regular tests. As tutorials, they were to discover those positions of the syllabus which had not been fully understood by the scholars and required drilling and elucidation. Final evaluation, however, was to be arranged at the end of the course at a central place as Gargoti. Evaluation in these classes was to be by tests drawn up according to the new testing procedures of short type tests. There were to be no regular essay-type questions, though some essay-type questions formed part of the year's work.

(6) *Audio-visual Aids:* Steps had to be taken to devise special methods of teaching, particularly on audio-visual basis so as to accelerate the teaching process. Such acceleration was quite essential in view of the shorter duration of the course and also the amount of time the pupils could spare for these classes.

II.3 With regard to the first of these items, the syllabus, a draft

syllabus was drawn up and sent to Government, with the Scheme. This syllabus was circulated among some educational experts including Shri J.P. Naik. Shri J.P. Naik went through the syllabus and gave his suggestions which were incorporated in the Scheme that was implemented. Other persons, to whom the syllabus was sent, did not respond. The syllabus was also discussed with educationists who visited Gargoti and also with the primary school teachers.

II.4 The main object of this experiment has been to try out a new type of curriculum for the continuation classes. At this stage, one may raise a question as to why there should be a curriculum for continuation education classes different from that of the upper primary classes, and if there should be a different one, in what respects it should differ.

II.5 The curriculum of the upper primary schools is drawn up to meet the needs of children proceeding to secondary schools and to prepare them for the secondary schools. In this case utilitarian aim of the curriculum is largely subordinated to the academic objective. The curriculum of upper primary schools includes:

- (i) Three languages—mother tongue, Hindi and English;
- (ii) Mathematics including Arithmetic and Geometry;
- (iii) Social Studies to include History, Geography and Civics;
- (iv) Science; and
- (v) Art or Craft.

The curriculum is drawn up taking into account full-time attendance of children in schools. There will be textbooks for detailed study, and rapid reading and also reference books.

In the case of children attending continuation education classes, however, the curriculum will have to be much simpler. It will have to concentrate mainly on the utilitarian aspect of the subject. The criterion will be, "To what extent the matter taught will be useful to the child in life?" Secondly, the curriculum will have to take into account the fact that the boy is engaged in some occupation during day time and as such he has limited time for study during day or in the evening. Further, this boy does not ordinarily aspire to pass a public examination, but would like to acquire some general

information and skills which would help him in his vocation. As such, the curriculum has to be integrated with the vocation, children are following out of school. In rural areas, agriculture is the main occupation. The bulk of children likely to attend the continuation education classes, are doing work on farms or in agricultural operations. A good many of them work on sugarcane farms. Others work as labourers in rice fields. Hence, the curriculum will have to be developed round this central theme of agriculture in rural life. Only such of the subjects as would be needed for this central feature—agriculture—will have to be included in the curriculum and the syllabi will have to be developed taking into account this central theme. The reading materials, arithmetic, science, composition work and social studies for the curriculum of the continuation education classes will have to be, therefore, in close relation with agriculture and village life. In this way it will have to be a cent - per - cent utilitarian curriculum for boys and will have to be drawn up from their environment. It will not be an academic-loaded curriculum as in the case of that for children in upper primary schools.

II.6 The essential points of difference between the upper primary school curriculum and the continuation school curriculum have been noted above. This difference is due to the different types of situation in which children attending continuation education schools are placed. Such children will not have much time or need for purely academic subjects as Hindi or English. They are necessary for a child likely to attend a secondary school and perhaps a college. But, in ordinary parlance a village boy will not need either of these. With the growing emphasis on the mother-tongue, in business and official correspondence, a good mastery of the mother-tongue and its composition is an essential part of the curriculum of continuation education classes. Children wanting to learn English or Hindi may do it after their education in these classes, or they should attend a full-time day school. Even under mother-tongue, the emphasis will have to be more on composition, business communications than on literary appreciation of poetry or prose pieces.

II.7 Agricultural Science will be one of the main subjects in the curriculum for continuation classes. A better title for the subject

would be rural science. This will deal with such scientific knowledge as is essential for agricultural operations. It will include knowledge of plant and animal life, knowledge of irrigation, manures, plant and animal pests, and prevention of soil erosion and other techniques connected with increased yield of agricultural commodities. Knowledge of weather, rainfall, also will come under this subject. This subject will be considerably different from the science subject as is included in the curriculum of upper primary schools.

II.8 Rural health and hygiene is given the status of an independent subject in the curriculum of continuation classes. The reasons for this inclusion are obvious. Unfortunately, health and hygiene occupy a very subordinate place in the science curriculum of primary schools. The subject is eclipsed by physics, biology and chemistry. In rural areas, health and hygiene form an essential need of the people. Ignorance has been responsible for unhealthy living and insanitary conditions which lead to infectious diseases taking a heavy toll of human life. Hence, full knowledge of physiology, hygiene, sanitation and public health ought to have an important place in the curriculum meant for village adults. It will enable them to understand and appreciate their responsibilities towards maintenance of sanitation in the villages and thus prevention of a large number of communicable diseases, a matter of common occurrence in the monsoon.

II.9 Another important subject included in the curriculum of continuation education classes is business arithmetic. Arithmetical knowledge and skills form a vital need of adult life. Though the skills will very nearly be the same, the situations in which they are to be applied will, however, differ. The arithmetical needs of a city-dweller will differ from those of a villager. The present pattern of teaching arithmetic aims at developing skills regardless of life situations. No doubt, some artificial problems are selected for developing and drilling skills. But, these situations have no reality and neither apply to city-life, nor to village life. The subject—business arithmetic—will, therefore, remedy this defect. It has to be built round the business needs of villagers. Such needs arise out of postal transactions, banking, marketing farm produce, Panchayat taxes, etc. A whole system of arithmetic can be built round these topics and it will be one of the most useful items if

school work is integrated with village life around. This subject will, therefore, differ considerably in content and treatment from the subject of arithmetic as taught at present in upper primary schools. It will be based on the four fundamental rules of computation, fractions, decimals, rule of three and a knowledge of current metric measures in use. It will draw upon knowledge of the situations and will apply skills to them.

II.10 Besides these four subjects, the curriculum would also include two more subjects, viz., (v) knowledge of our country; and (vi) Rural Administration. The subject 'Knowledge of our country', would aim at giving the adults a clear picture of our country, its past and present, its resources and needs and the schemes that are being implemented for its progress. This subject will not be something like History or Geography, of the traditional primary school syllabus. It will be built round current events and festivals and national days. Thus, the students of the continuation classes will intelligently follow reports of current events in periodicals and take an interest in the development of the country. The students will appreciate the vastness and variety of our country and its people, a sound step in emotional integration. The treatment of this subject in primary school syllabus is more logical than psychological, whereas in the continuation school it would follow the psychological approach and would be drafted to meet the needs of adults.

II.11 The last subject included is village administration. As an intelligent citizen, the villager should know the pattern of administration of the village, Taluka and the District. He has to share in it and take an active part in the betterment of the village. The Panchayat, Local bodies at the district and taluka levels are topics for discussion in the village. They intimately affect the life of the village folk. Hence, these have an important place in the curriculum of adult schools in rural areas. For teaching purposes, the affairs of these bodies will offer concrete material, and make the matter interesting to the village students.

The curriculum proposed for continuation classes will thus include the following subjects:

- (i) Mother tongue;
- (ii) Agricultural Science;

- (iii) Health and Hygiene;
- (iv) Business Arithmetic;
- (v) Knowledge of our Country; and,
- (vi) Village Administration.

These subjects will be built round village life and will be taught through concrete situations. Children will be reading and learning more about what they see around them. They will gather experience by visits, direct contacts, activities and projects. Students of this class will go through a curriculum which is more of a practical and utilitarian nature than the primary school curriculum and which can be handled by concrete materials than by mere books.

With this outline of the curriculum for the continuation education classes, the syllabii in the different subjects of the curriculum were drawn up. As the curriculum is integrated round village life and agriculture, the subjects will also draw abundantly upon village life. The syllabuses of the different subjects will be woven round some aspects of village life. Illustrations of these will be given in the succeeding sections of this chapter. The syllabuses of the different subjects are given at the end of this report in Appendix I.

II.12 A perusal of the syllabus will show that it is divided into two columns for each subject. The first column mentions the items of practical work to be done and the second column theoretical knowledge to be imparted through activity. The practical aspect of the syllabus mentions a number of activities. These activities are to be carried out as projects and knowledge to be given, incidentally when the activities are being carried out either before or afterwards. Some illustrations of this activity-cum-knowledge syllabus are given below so that the idea underlying the construction of the syllabus will be further clarified.

II.13 The first subject in the curriculum is Health and Hygiene. This provides for twenty projects to be done by the pupils. All these projects are related to personal health and community health. Project No. 7 is a study of water supply of the village and neighbouring villages. Students will visit water supply sources of the villages—if they have not done so before—and make this activity as a centre for the study of the

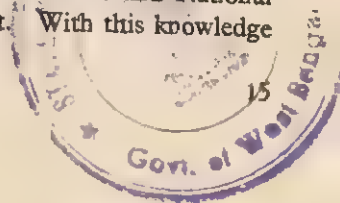
topics—cleanliness of water, communicable diseases spread through polluted water and steps necessary to keep wells, rivers and tanks clean. Item No. 13 and 14 refer to visits to dispensaries, health centres and centres of vaccination to study in the working of these in the community. Pupils will see there different types of patients, causes of common illness, remedies for their cure and prevention. Item Nos. 18 and 19 relate to participation in D.D.T. spraying and anti-malaria campaigns carried on in the village. Here, students will study common infectious diseases and their prevention, through cleanliness and immunisation. The knowledge part of the syllabus will indicate the items for instruction. All the items relate to public health, physiology, hygiene and first aid. This subject has an important place in the life of village adults. Many of our villages are yet in an insanitary condition. There is no proper drainage and there are pools of waste water accumulating on roadside. There is no arrangement for disposal of sewage and no arrangement for latrines attached to houses. The subject is, therefore, so designed as to give the student basic knowledge of health and hygiene of the village through a programme of activities pertaining to it.

II.14 The second subject in the curriculum relates to business arithmetic. The syllabus has been drawn so as to relate to the day to day needs of the villager. Here, again the activity programme includes as many as 26 projects. One major field of study is the Post Office and its transactions. The Post Office plays an important role in business transactions. This project would, therefore, include purchase of postal stationery as, letters, post cards, stamps and arithmetic based on them. In addition, there will be other transactions as Saving Banks, C.T.D. Accounts, Defence Savings Certificates. Students will be required to study the Defence Certificates, their repayment at different periods. They may open a Savings Bank Account and also invest in Defence Savings. Some students actually opened S.B. Accounts and purchased such certificates. Writing and posting letters, sending money orders, was done by all the students. The local co-operative Bank becomes another project round which centres a good deal of knowledge about cheques, loans, deposits, securities, repayments of loans with interest, etc. Students will have to study forms for enrolment as members,

forms for application of loans, pass-books and reports of the Societies. The Panchayat Taxes is a third centre for study. The subject also includes travel arithmetic, and farmer's arithmetic. Travel arithmetic includes studies of S.T. rates and S.T. time-tables. The S.T. route map is to be used for locating places in the taluka and district. The syllabus also includes simple Insurance arithmetic. Students are to be trained in reading tables, tables of interest, tables of railway fares and distances and Insurance tables. The topic of areas is introduced through gardening and measurement of the farm. Students are to be trained in the use of metric weights and measures through actual operations involving these.

II.15 The third subject included in the curriculum is agricultural science. The syllabus lists nineteen activities to be organised, some of these on the farm, and the rest in the class. Some of the activities involve preparing charts, recording of growth of plants, daily weather, etc. The syllabus of the subject is drafted keeping in mind two objectives. The first is to provide a scientific background to the agricultural operations, the students are doing—as manuring, weeding, spraying insecticide, etc. The second is to introduce pupils to the various farming activities as sowing, preservation of seeds, weeding, manuring, etc., as part of their daily work. In rural areas agriculture plays a vital role. Children, adults, all come in contact with agriculture in one form or another. All scientific knowledge the villagers need can, therefore, be based on agricultural knowledge and the syllabus has been drawn from this point of view.

II.16 The fourth subject in the curriculum is general information of our country. This combines both history, geography and administration of India. The number of projects listed is twelve. But, they can be multiplied since some of the projects are big ones and can be split up. The syllabus is drawn up in this subject on the assumption that this subject can be taught through current events, celebrations of National Days and social activities. As such, the activities include participation in the celebration of National Days, and local religious festivals. Study of current events through newspapers and drawing up a weekly news-bulletin also form an active part of the study of this syllabus. A study of the State and National budget, following the proceedings of State and National legislatures also are included in this subject. With this knowledge



students should get a fair amount of knowledge about India; its past and present.

II.17 The fifth subject is village development. The subject for study is, 'How can our village be developed?' This is a concrete problem in which every villager is interested. The syllabus is drawn up to include in it all village problems. There are thirteen projects. But, they are local. Some of the matter covered under this subject will overlap with the matter covered in subjects as business arithmetic, agricultural science or health and hygiene. But, in this subject, information pertaining to different fields is brought together and developed in a systematic form. This subject also includes a good deal of practice in correspondence, writing letters and applications on problems connected with village development to relevant higher authorities. Thus, the subject brings in written composition and provides themes for such composition.

II.18 The last subject included in the curriculum is general reading. No definite textbook is prescribed for detailed study as is done in primary schools. But, a collection of simple books is supplied to each centre. These books pertain mainly to biographies of saints, short stories and books of travel. Students are expected to read these books in the class, with the help of the teacher and thus, develop their powers of comprehension. The daily newspaper is also read in the class. Devotional and other songs in the books are to be recited.

This, in short, is a brief account of the syllabus in the subjects included in the curriculum for the continuation education classes, envisaged in this experiment.

The complete syllabus in these subjects is given at the end of this report in Appendix I.

II.19 The second item is with reference to persons who undertook to run these classes. These classes were intended to be attached to schools and hence teachers in schools who agreed to work on the classes were the right persons to be selected. The work of the continuation class was an additional load. Many teachers were not readily willing to undertake this additional load. Moreover, it involved some personal influence and effort. There is considerable

resistance among the students who had left school, to join school again. In rural areas, there is not much attraction for these pupils to join such classes. Hence, this resistance was to be overcome by personal influence of the teachers, who undertook to run these classes. Since the experiment was undertaken by a voluntary agency, without any control over school teachers, those who liked to do work in the field came forth to work on these continuation classes.

Teaching Methods—Having discussed the curriculum and the syllabus to be implemented in the Continuation Education Schools, the next item of importance is that of the methods of teaching. In view of the difference in composition and objectives of these classes, teaching methods will have to differ considerably from those in upper primary schools. The main points of difference which influence the teaching methods are the following:

- (i) The primary schools are full-time day schools whereas the continuation education classes are part-time evening classes.
- (ii) In the case of primary schools regular textbooks are prescribed and learnt by pupils at home, while in the continuation education classes, there is no provision for home-work. Whatever work is done during school hours, is the only work possible. It combines both new matter as well as revision and self-study. No textbooks of any kind are prescribed for study by pupils.
- (iii) Children in primary schools are fresh and have no other worries, whereas children attending continuation education classes are engaged in hard work during day-time and fairly tired when they attend the evening classes. Regularity in attendance is a problem in the case of these children.

II.20 As such, we have to devise methods whereby a good deal of matter can be compressed and imparted to the students of these classes within as short a time as possible. In all methods of teaching, we have to remember that learning is more important than teaching. It is not what the students learn that counts. A teacher may lecture in his class on lots of things. But if the student hardly assimilates any thing of what has been taught, then the teaching becomes only a wasteful process. The teaching in our schools is drifting towards

methods of lecturing or questioning. Teachers tell many things and ask questions on them to elicit whether pupils have understood the matter taught. But, still teaching becomes one sided and pupils depend mainly upon textbooks for cramming. In the continuation education classes, cramming is not possible as neither textbooks are available nor do pupils have the necessary free time for memorisation.

II.21 Learning can be made effective by activity methods. When students take part in activities, learning comes in incidentally. The syllabus of the continuation education classes has been so drawn up as to provide a series of activities under each head. Students go on participating in the activities and do learning side by side. A visit to the post office may be taken for an example. This is an activity included under business arithmetic. Students will visit post office and learn the way in which the post office serves the public. They will observe how people purchase stationery, send money or buy stamps. After this visit the post office becomes the subject for discussion in the evening classroom programmes.

II.22 It will be obvious that the entire syllabus in any subject cannot be covered through activities. There will, still, remain topics for which activities cannot be found. In such cases an auxiliary method of teaching used for these classes is visual aids. Visual aids can be grouped under two heads—as flat pictures and charts, and projected films. In the former case, it is possible to use the flat charts and pictures found in every school. But the stock of these materials in most of the primary schools, is limited. Therefore, use of projected visual aids has to be made in a large measure, as a substantial method of teaching.

II.23 A third method to be specially used for these classes is the assignment pattern. Matter to be studied during a fortnight is condensed into exercises. As no textbooks are to be used, the notes provided by the centre, are to be used as the only texts and are to be explained by teachers. These notes are to be read and studied by the teachers in advance and then to be supplied every fortnight to each boy. Sometimes, the notes may contain diagrams with explanations. Occassionally, test questions are also to be given which

are to be solved by pupils with the help of teachers.

Thus, the methods to be used in these classes can be grouped under the following three heads :

- (1) Activities;
- (2) Visual-Aids—Film-strips;
- (3) Assignments and self-study, fresh matter to be given every fortnight.

CHAPTER III

The Experiment in Action I—Organisation of Continuation Education Classes

It has been pointed out that continuation education should form a part of compulsory education for the age-range of 11-14, when a scheme of compulsion is enforced for this age-range. Such education is intended primarily for small villages where it may not be possible to start upper primary class. Also it may cater to the needs of children who are employed and cannot go in for full-time education. If this view is accepted, problems connected with the organisation of such classes will have to be studied and solved.

III.2 These problems are connected with the following aspects of these classes :

- (i) Selection of workers for running these classes;
- (ii) Financial aspect of running these classes;
- (iii) Classroom organisation—as timetables, teaching aids and other equipments, etc., and
- (iv) Orientation of teachers for running these classes.

III.3 The first problem is selection of workers. It has been suggested that these classes should be entrusted to willing teachers in primary schools. There are several advantages. The teachers are already engaged in similar work and they will not need much additional preparation. The teachers have a greater hold on pupils, know them intimately and thus, can ensure regular attendance and

working of these classes. Teachers in rural areas have enough leisure for this additional work and can manage it without effecting their normal work. Since continuation classes are to be treated as regular parts of primary schools, it is but reasonable to treat this work also as part of primary school work and teachers in charge of higher classes may be entrusted with this work. They would be able to integrate their teaching of continuation classes with the teaching of upper primary classes, so that both groups can work together.

III.4 The main item of finance in running these classes is teacher's remuneration. It will be necessary to compensate the teacher for this extra work. In the classes run under this experiment, the teacher was to be paid a remuneration of Rs. 20/- a month. This amount was to be paid for a period of ten months from 1st of July to 30th of April. The remuneration items thus comes to Rs. 200/-. It will also be necessary to provide for contingency for these classes. The classes will have to spend on oil, stationery and reading materials to be supplied to adults. The provision made for contingencies for these classes was Rs. 20/- per month, for a period of ten months, the period during which these classes were to be run. The total expenditure, therefore, on one class would come to four hundred rupees.

III.5 The question of remuneration is linked up with the additional work the teachers will have to do. The duration of these classes will be about one hour and a half in the evenings daily. Sometimes this may be carried to two hours and sometimes less. Since the classes will work for six days, the total duration of the classes per week would be nine hours. A remuneration of Rs. 20/- per month would be necessary for this additional work. The additional work of one and half hours is to be divided into two periods of forty-five minutes each. Some work will be done on holidays and sundays, during day time, and this work may be taken, as inclusive of nine hours' weekly work.

III.6 An item of organisational importance is the time allotment to be given to each subject in the curriculum. Six subjects, included in the curriculum, are (i) Health and Hygiene; (ii) Business

Arithmetic; (iii) Agricultural Science; (iv) Knowledge of our Country; (v) Village Administration; and (vi) General Reading. These six subjects will be taken on the six days of the week, each subject getting $1\frac{1}{2}$ hours of instruction and assignment on an average every week. The class will work on all days of a week, taking only one day as a holiday. Thus, during ten months, it will have on an average forty weeks and the time allotment for each subject will be sixty hours. In the syllabus discussed before, about fifteen activities are indicated under each subject. As such, each activity will get about three hours.

III.7 What should be the duration of the continuation education?

If this class is considered to be on par with upper primary classes, the duration will have to be three years. The first year will correspond to Grade V, the second year to Grade VI and the third year to Grade VII. The total number of children in these three classes will not ordinarily exceed forty and hence only one teacher will have to run the continuation education school. The school will, therefore, resemble in many respects a single-teacher school, where one teacher has to teach four classes at a time. On the basis of experimental work done in such classes, a pattern of work, which will include Project Work, teaching and self-study, has been evolved. Pupils, in a group, will do a project, which will be followed up by knowledge and assignments for fixation. Hence, this pattern of work will have to be followed in the single-teacher continuation education school, for the three years, first year, second year and third year. The syllabus for the three years will have to take into account this fact also.

III.8 Another material point in running these classes would be that of a terminal examination and certificates to successful candidates. Such a practice obtains with upper primary schools. Boys on completing their Grade VII, appear for a public examination, known as the Primary School Certificate Examination and successful candidates are awarded certificates by the Department. Such a certificate is an inducement to students joining this course and hence it would be advisable for the State Department of Education to institute a certificate as the terminal point of the continuation education course. After a period of continuation education, some pupils may think

of appearing for the Primary School Certificate Examination, given by regular students. There should be no objection to permit such students to appear for the P.S.C. Examination. With some extra work in academic subjects, the students of the continuation education class will be able to appear for the P.S.C. Examination. Such a permission will be a further inducement to the students joining the continuation education class to continue their studies in this class and supplement it by some additional work in academic subjects.

III.9 The overall control and supervision over the continuation education classes should rest with the local education authority. This will include appointing teachers for continuation education classes, holding examinations, supervising the work of the continuation classes and supplying equipments, materials, and other necessities of these classes. Since these classes are taken as appendages to the regular school-classes, periodical visits and inspection of these classes should also be arranged by the education authority, which will be the appropriate authority for organising these classes, wherever their need is felt. In this experiment the work of supervision and guidance of the classes was entrusted to a research assistant who planned the instructional materials for the students. The place of the Research Assistant will be taken by the Inspecting Officer of the local education authority.

III.10 The next point in the programme of continuation education classes would be supply of equipment and teaching aids. In the chapter dealing with teaching aids, we have referred to two types of aids, namely, flat pictures and projected film-strips. Flat pictures, charts, maps and diagrams will be available in the school for the normal work of the school. These can as well be used for continuation education classes. It may not be possible for schools to have projected aids individually. In such cases, a school situated centrally should have a projector which can work both on petrolmax and electricity. The local education officer should serve as a stockist for film-strips which can be lent to schools and continuation education classes according to their needs. The teachers working in primary schools will need some training in the operation of the film-strip projector and using film-strips as teaching aids. This training can be included in the orientation

course. The investment on petromax-cum-electric film-strip projectors and film-strips should be the concern of the local education authority or the Panchayat Samiti. The film-strips can be used for adult education programme also along with school education programmes. If these arrangements can be made, the instructional programme can be easily arranged through film-strips.

III.11 In the list of organisational problems, orientation of teacher for this course is a must. This should consist of a short course of training for teachers undertaking continuation education classes. In the classes run under this experiment such training was to be spread over the entire period. Teachers were called once a month and sometimes once a fortnight and orientation of the instructional programme was arranged. When the courses are actually run by educational authorities, it would not be possible to spread over training in this manner. A continuous course of a fairly long duration will have to be arranged for the teachers and the most suitable period for such a course is the summer vacation, when teachers can be called for training without disturbance to their normal work. One month's training would be quite adequate for trained teachers to undertake this new type of work.

III.12 At this stage a question may be raised as to why there should be further training in continuation education work for teachers who are already trained in Primary Training Colleges. The answer to this question would be the specialised nature of the work expected in continuation education classes. It is not simply that the syllabus for this course is different. The more important point is that of approach. In continuation education schools, the approach to the syllabus is purely utilitarian. Knowledge is to be integrated with life situations. Pupils will study the life situations and through them will get knowledge. They will visit the Post Office of the co-operative society or the Panchayat Office, study these institutions and their working, and thus, get knowledge. It is not simply reading information about these institutions in books. This is a new approach which is not taught in primary training institutions. Our training institutions mostly follow the traditional type of teaching, where lessons are given according to the Harbartian pattern. The new approach implies the following conditions:

(1) The teachers themselves should have a thorough knowledge of the environmental situation with which projects are to be organised.

(2) They should be conversant with the technique of using activity project or projected visual aids in teaching.

In respect of the first, the knowledge teachers possess is superficial. In respect of the second, their knowledge is inadequate and their practice, insufficient.

III.13 The orientation course for continuation education teachers should, therefore, lay emphasis on the following points:

(1) The activities and knowledge included in the syllabus and the background knowledge needed for carrying out the activities listed :

(2) Skill in techniques of organising activities and teaching through activities.

A third item in the list would be preparation or digests for teaching. The course provides for no textbooks to be prescribed. In fact, at present, no textbooks on the syllabus are available. Hence, for reading, matter in the form of digests will have to be supplied to pupils. After the activities, this matter will be read and discussed in class and thus, fill up the gap caused by eliminating textbooks. Some practice in preparing such gists and also easy teaching aids appears to be a necessary item in the programme of orienting the teachers for these classes.

III.14 What should be the content of a course of teacher orientation for the continuation education classes? This will have to be based mainly on the content of the syllabus for the continuation education classes. A thorough grounding in all the topics included in it will be necessary.

(i) *Health and Hygiene*: The teacher should have a thorough knowledge of human physiology and the working of the different systems in the body. In addition, he should have enough knowledge of biology so far as it affects man. Rules of health and hygiene, public sanitation and diseases arising out of insanitary conditions, pollution of food and water-supply, will form part of the content of the syllabus.

(ii) *Business Arithmetic*: This subject will include full details

of postal transactions, Co-operative Banks, Panchayats, Taxes, Defence Savings and other institutions mentioned in the syllabus. In addition, training in the use of metric measures and decimals, mensuration and land measurements will form part of training. Teachers will be trained in reading ready reckoners and tables for calculating simple and compound interests, reading tables of distances and applying this knowledge to life situations.

(iii) *Agricultural Science*: The teacher will need a thorough grounding in botany and agricultural operations. He should be acquainted with the steps taken for growing more food as, better seeds, fertilisers for soils, prevention of soil erosion, combating crop pests and so on.

(iv) *General Knowledge of our Country*: This includes history, geography and administration of India. Teachers should be able to read maps, fill in outlines and prepare teaching aids. They should be able to follow closely the news and reports published in newspapers. They should have a clear idea of the Five Year Plans and their targets and progress during the Plan periods.

(v) *Village Administration*: The teachers should know thoroughly Panchayats and their functions. They should have attended meetings, should be acquainted with the functions of the Panchayats, and have at their hand, full details of the Taluka and District Panchayat organisation.

(vi) The last subject is general reading. For this, teachers should have a general acquaintance with Marathi literature and its latest trends. They should know the literature of great saints as, Tukaram, Ramdas, Gnyaneshwar, which exercises a great influence on the village folk.

III.15 This part is concerned with knowledge content of the course. The second part will be teaching aspect. This will include:

- (i) Activity teaching, its principles and lesson stages;
- (ii) Teaching through film-strips and operating a film-strip projector;
- (iii) Preparing digests for pupils' reading.

This part will need a good deal of practical work. Besides the theoretical aspects underlying each of these, teachers will have practice in teaching through activities and through film-strips. Since the teachers are already trained, a sample of these lessons

with plenty of observation and criticism will be adequate. The number is not fixed. But about five lessons—covering teaching both through activity and film-strips may be included in the course. They should observe and criticise all the lessons. This forms a solid ground work. Training in preparing digests for students may also be given. For this purpose it will be necessary to have continuation education classes attached to the training programme for practical work.

CHAPTER IV

The Experiment in Action II *Progress of the Experiment*

In this Chapter, some details of the way in which experimental work was conducted are given.

IV.2 The Scheme provided for five continuation education classes to be run on an experimental basis. As such, five villages as shown below were fixed for these classes:

Villages selected for
Continuation Education Classes.

Sl. No.	Name of the village	Distance from Gargoti	Population
1	2	3	4
1.	Gargoti	0	6,000
2.	Nilpan	8	2,000
3.	Nangargaon	8	500
4.	Turumbe	14	2,000
5.	Saravade	14	2,000

These villages had a fairly large catchment area. By catchment area is meant the area in which smaller schools teaching upto grade IV are located. These schools have a fairly large proportion of children who have discontinued education after grade IV and thus,

are in a position to secure students willing to attend the continuation education classes started at the central village. Five classes were started in these five villages and functioned from July 1963. In the four villages—Serial No.'s 2 to 4 in the table given above—the work of running the continuation classes was taken up by teachers in those schools; but in Gargoti, the work was taken up by a non-teacher, who was a servant of the Vidyapeeth. All the four classes started outside Gargoti functioned well for the duration of the course. But the class started at Gargoti, did not function. It had only a short-lived existence and came to be closed within a month of its starting.

IV.3 This fact has an important bearing on the organisational pattern of the classes. It is clear that much depends upon the influence the teacher can wield over the students of the continuation class. In the four classes at Nilpan., Nangargaon, Turumbe and Saravade, the teachers of the schools were in charge. They knew all the pupils personally and could persuade them to attend the class. At Turumbe, the headmaster of the school had taken up the work. At Saravade and Nilpan, a senior teacher in charge of Grade VII was in charge of the class. At Nangargaon the village had a one-teacher school and the teacher of this school had taken up the work. Thus, the continuation teachers were connected closely with the school and the pupils, and as such could see that the classes could function all the year. But at Gargoti, where the work was entrusted to a non-teacher, the teacher had no influence or control over the pupils. Attendance was irregular and out-turn of work negligible, with the result that the class closed down within a short period. The lesson is obvious. Though outsiders may be willing to run classes, the classes will succeed if they are entrusted to senior willing teachers in schools, rather than to outsiders. Such teachers can exercise influence over the pupils of the class and ensure its continued existence.

IV.4 There are, also, other reasons why school teachers should be involved in the scheme. During the course of these classes they were closely associated with the top classes of the primary schools where they were available, viz., at Turumbe, Saravade and Nilpan. At these places night classes were run for students of Seventh

Grade and the students attending the continuation classes could be associated with the school students. This will be an indirect advantage when the class is run by a teacher. The teacher has at his disposal the furniture, equipment and library of the school and the continuation education class will be an additional class to the school classes.

IV.5 From the figures supplied by teachers, the number of pupils who attended these classes was 80, on an average 20 for each class. This is a reasonable number and was budgeted for. All these boys were engaged by day in their professional work. Ten percent of these students were engaged in work other than agricultural operations. The bulk of the students worked on farms, as casual labourers, particularly during sowing or harvesting seasons. This area is known for sugarcane growing and sugarcane is a crop which requires attention all the year round. Among the non-farmer workers, pupils were distributed as shop assistants, peons, apprentices in carpentry workshops, etc.

IV.6 All these boys had attended school upto Grade IV and left school after Grade IV, to take up the jobs for family maintenance. Some had learnt Grade V also. But, this was a small number. The average age of these boys was 13. They had remained idle for a couple of years after Grade IV and also lost some of the reading and writing skills learnt by them in primary schools. As such, they needed some brushing off before the classes actually started.

IV.7 One important feature of the class was the public support for them. The village people paid visits to see what was going on in the classes. They encouraged children to continue their education and took personal interest. Some of the students who attended these classes got a direct advantage from their study by monetary gain. Two of the students came to be selected in the Police Force and some got jobs in Bombay, in mills. Others got local jobs as shop-assistants, clerks in the co-operative stores, and thus, were benefitted by their continuation education. The certificates issued in token of their having completed the Course carried weight with the employers.

IV.8 The classes functioned for one full year. Organisational details and time-table of work, are given at length, in the relevant chapter. Periodical tests were also arranged for these students. These tests were of a diagnostic nature and were used to make up the deficiencies noticed in the programme of instruction. Quarterly visits of all the students to Gargoti, were also arranged so that they could exchange notes with each other. The four groups formed—one complete unit, and were treated as such.

IV.9 In all these villages people observe one day as the weekly holiday. These days for the four villages were different. Some observed Monday, others Tuesday and so on. On this day, no work was done on the farm or in shops. Pupils utilised this day, commonly known as 'PALAK' (off day) for educational visits. The visits were based on those topics mentioned in the syllabus. Sometimes, two or three visits could be arranged on the same day, as Post Office, Bank, Panchayat Office, etc. These visits furnished students material for first-hand study. Owing to seeing and discussions the material could become fixed easily. This was the method adopted for integrating experience with knowledge.

IV.10 The duration of the classes was one academic year. This was taken as ten months. Ordinarily such classes can start from 1st July and end on 30th April. Owing to certain difficulties the duration of 10 months, however, did not exactly correspond to one academic year. One of the reasons for this, was the non-availability of the boys for attendance during the harvesting and sugarcane crushing period. During this period, the boys were engaged in work even at night, on the farms or sugarcane crushing factories. They were working full-time and to suit the conveniences of these students, break had to be given. The period, which was thus missed, was made up by subsequent work in the month of July, in the next academic year. The items which mainly constitute the progress of experiment during the ten months' period for which the class was run are the following:

- (i) Monthly meetings of teachers for discussion and preparation of digests.
- (ii) Visits of the research staff to the classes for instruction and supervision.

- (iii) Gatherings of all the children of the four classes at Gargoti, for further discussions, study, etc.

These items are described in serial order below.

IV.11 The monthly meetings of teachers formed a very important link in the planning programmes of instruction and implementing them. In all ten such meetings were held, one every month for this type of work. These meetings are exclusive of those which were held for evaluation programmes. The following agenda was gone through at each meeting:

- (i) Discussion on the work done during the previous month.
- (ii) Discussion on the projects to be undertaken during the current month.
- (iii) Instructions on teaching aids and film-strip shown to teachers on these topics.
- (iv) Preparation of digests for students on the topics fixed for the next month.
- (v) Cyclostyling enough number of copies of these digests so that one copy would be available for each student to study.
- (vi) Distributing copies of the cyclostyled digests to the teachers and also reading material such as general reading books for pupils' reading in the course of the month.

One full day was utilised for these discussions and preparation of the digest and reading materials.

IV.12 Since a good deal has been said about the digests for students' reading, it would be necessary to review here these digests. The digests for each month covered all the activities to be organised by the teachers in the continuation education classes in the course of the month. It referred to the five main subjects of the curriculum. Since these digests will give a picture of the manner in which the entire syllabus was implemented in the continuation education classes, they are summarised below:

The digest for the first month commencing from 15th July to 15th August, 1963, referred to the following activities:

- (1) *Business Arithmetic*: Visit to the Post Office and studying the types of transactions, rates of post cards, letters, money orders, book-posts, difference between ordinary letters, book-packets and

parcels, problems based on postal rates.

(2) *Health and Hygiene*: Uses of water, how water becomes contaminated, use of potassium permanganate in wells, diseases caused by contaminated water, methods of purifying drinking water, filtration, boiling, use of alum, visits to water supply tanks.

(3) *Agricultural Science*: Preparing seedlings in nursery beds for growing plants. Methods of vegetative reproduction, effect of rainfall on crops.

(4) *Knowledge of our Country*: Studying the map of India and marking in the outline map of India the state of Maharashtra and its main cities and administrative divisions. Since the Independence Day on 15th August came in this month, observance of that day, its significance in Indian Independence, struggle for independence, also, formed part of the programme. The school would observe flag salutation.

(5) *Village Administration*: Visit to the Panchayat Office and study of its working. A study of the wards, names of persons representing these wards in the Panchayat Council, process of elections.

(6) Reading general books supplied and writing description of some of the activities organised.

IV.13 The second unit was given for a period of a fortnight from 15th August to 31st August. In this assignment digests prepared were on the following topics:

Health and Hygiene: Main constituents of food—as carbohydrates, proteins, fats, vitamins and mineral salts, study of our daily diet with reference to its composition and supply of nutrients and mineral salts.

Business Arithmetic: Preparing bills of articles purchased for daily use, particularly on market days.

Agricultural Science: Types of manures-farmyard and fertilisers, specimens of each to be seen and study of the uses of these.

Knowledge of our Country: Marking in the outline map of India all the States, writing their names, their capitals and languages. Outline maps showing the States to be supplied.

Village Administration: Visit to the village library, study its working and taking stock of books and periodicals ordered for the library.

IV.14 The third unit was intended for one fortnight from 1-9-1963 to 15-9-1963, and the matter included in this unit was as under:

Health and Hygiene: Drainage of waste water and its effect on public health, cleanliness of public lavatories and disposal of waste matter.

Business Arithmetic: Reading a ready reckoner for calculating interest on savings deposits. The table was prepared taking simple interest at 3%; practice in calculating interest monthwise for different amounts.

Agricultural Science: Observation of plant and study of the role played by the parts of the plant in its growth.

Knowledge of our Country: Marking in the given outline map of India all the States, their languages and State headquarters and cities.

Village Administration: Study of the village Panchayat—its functions.

A good deal of the second unit was repeated in the third unit, since these activities had not been completely covered by the second unit.

IV.15 During the fourth unit, in October, the following topics were covered:

(1) *Village Administration:* Celebration of Gandhi Jayanti—a study of the contribution of Gandhiji to the freedom movement of India—participation in the local programme of Gandhi Jayanti.

(2) *Health:* Importance of pit-latrines and pit-urinals in village sanitation, construction or repairs to these.

(3) *India:* Railway systems, a journey from Gargoti to Bombay, to be shown on the map.

Business Arithmetic: Writing accounts. The student writes his own accounts—earning and spending in the last month.

General Reading: Easy books on Gandhiji's life and doings.

These units completed one quarter and were followed by a quarterly test on the work done. This test is separately taken in the chapter on evaluation.

IV.16 The fifth unit covered the month of November 1963, and the following items were studied:

Health and Hygiene: Systems of the body-digestive system,

function of teeth, stomach, duodenum, intestines, circulatory system, respiratory system, need of physical exercise, practice in athletics.

Business Arithmetic: Savings Bank accounts in a Co-operative Bank, functioning of banks, loans and their repayment, different types of cheques such as order, bearer, crossed. Idea of compound interest.

Agricultural Science: Kharif and Rabi crops, distinction between them, sowing of Rabi crops.

Knowledge of our Country: Nehru's birthday on 14th November observed. Administrative pattern of Maharashtra State.

Village Administration: The role of three village bodies—Panchayat, school and the co-operative society, inter-relationship between them.

The notes were accompanied by diagrammatic sketches.

IV.17 The sixth unit covered for the month of December, 1963. The following topics were taken up in this unit:

(1) *Health and Hygiene:* General revision of the systems already done, elementary ideas of first-aid in bleeding, by pressure points, use of disinfectants to wash wounds, as—boric powder, detol. Village sanitation and disposal of waste.

(2) *Business Arithmetic:* Defence Savings certificates, calculation of maturity and surrender values. Problems based on them.

(3) *Agricultural Science:* Dispersal of seeds of plants, various methods. Uses of thermometers—clinical thermometer, visit to the High School Laboratory.

(4) *India:* Showing Five Year Plan River Valley Projects in the map of India. Their importance to industry and agriculture.

(5) *Village Administration:* Visit to the co-operative society and studying its working.

(6) *General Reading:* Books on lives of Saints to be read. Map of India together with the ready reckoner table for calculating interest was supplied.

IV.18 The seventh unit was given to cover the month of January 1964. The topics covered in this month are given below:

Business Arithmetic: Idea of area and volumes. Surface area of the blackboard or table to be measured by squares of inches

drawn in chalk. Idea of squares space and first ideas of volume. Cardboard boxes to be studied for cubical contents.

Agricultural Science: Study of the Nitrogen and Carbon cycle in life. How photosynthesis occurs when plants take in Carbon dioxide and give out oxygen. Diagrams of Carbon and Nitrogen cycle to be given for study.

Knowledge of India: Knowledge of some multipurpose projects in Five Year Plans. Different Hydro-Electric Projects in—Mysore, Madras, Andhra and other States, to be located in maps.

Health and Hygiene: A revision of the digestive system—its organs and enzymes for digesting food, care of teeth and how teeth decay—causes and prevention.

Village Administration: Further study of a Co-operative Society, filling in membership forms, application form for loans.

General Reading: Four books to be read, one per week.

IV.19 The eighth unit covered the month of February, 1964. The following topics were covered in this month :

Business Arithmetic: Idea of Life Insurance, advantages of the same, types of insurance endowment and life-Instalments and how to pay. Table of insurance premia for the ages of 18 to 25 for endowment insurance; students to read it and compute premia rates for themselves and their friends.

Agricultural Science: Use of fertilisers, supply of water and use of insecticides for protection of crop from pests. Use of D.D.T. How to maintain fertility of soil—by green manures, rotation of crops.

Knowledge of our Country: District administration. Duties of Taluka Officers, Block Development Officers. Administration of our State and country.

Village Administration: Letters and drafting applications for solving different village problems.

Health and Hygiene: First-aid in fire burns, and some other accidents. Constituents of food.

General Reading: Four books to be read as in the last month.

IV.20 Thus, the whole matter was covered into eight units. After the tests, a separate unit was taken for remedial work on the defects noticed. This unit is referred to in the chapter on evaluation.

Besides these eight units, four tests were taken, one each quarter and the last test was taken as the Annual Test. Details of these tests are given in the next chapter on evaluation.

Besides these study units, three gatherings of students of all the four classes were arranged. The gathering lasted for one and a half day, at a time. The students with their teachers came in the evening, stayed at night and went the next day evening. These gatherings served the following purposes:

(i) They brought together students from all the four centres and as such, interclass competition, games, sports, debates could be arranged on the occasion.

(ii) The occasion was used to give instruction through mechanical visual aids as epidiascope, 16 mm film-projector, which could not be taken to these villages.

(iii) Students were taken to the institute's laboratory, farm and workshops and could see for themselves, many things which they could not see in their villages.

(iv) Students organised, on each occasion, a programme of cultural activities, folk dances, dramatics, ballad singing, etc. These activities, besides supplementing the knowledge given to children in their classes, helped to channelise students talents by giving expression to them.

IV.21 The third aspect of the working programme was the visits of the Research Staff to the four classes. These visits were paid periodically, but at least once a month to each centre. During these visits the film-strip projector and strips were taken to the centre. The instructional programme on the day was carried on entirely by the Research Staff. This included the following items:

- (i) General revision of the work done in the month;
- (ii) Inspection of note-books of students;
- (iii) Inspection of the daily work schedule maintained by teachers; and
- (iv) Teaching the topics assigned for the month through film-strips specially taken for the purpose.

IV.22 Under projected aids, the only machine that was frequently used for teaching was the film-strip projector. The film-strip-projector worked on a petromax or electricity—came in very handy

for use in these classes. Out of the four centres, Turumbe and Saravade had electric connections available for film-strip shows. Here, the electric connections were used. But, the other two centres—Nangargaon and Nilpan—had no electric connections. Here, the projector worked on petromax and gave satisfactory results for small groups.

IV.23 Visual aid methods through projector had several specific advantages. The instructional programme did not become boring to students. Projected pictures—which were popularly known as Cinema—in these villages attracted fairly large audiences. Secondly, the instruction given through the film-strips was more effective and lasting. It was possible for the teacher to detain the picture on the screen for instructional purposes. Each picture provided plenty of scope for instruction and discussion. The film-strips, with which the institute came to be equipped, provided a variety of interesting and instructive material arranged in a proper lesson plan, so that a well planned lesson could be taken by teachers with the help of pictures. Owing to the effective nature of this method of teaching it was possible to condense a great deal of matter within a short span and also fix the matter properly.

IV.24 Since, great reliance was placed on this method of visual instruction through film-strips, a brief account of the method followed is given here. The first thing that the institute did was to obtain a stock of film-strips suitable for teaching the continuation classes. The film-strips needed were mainly on Health and Hygiene, Geography and History of India, Agriculture and Nature Study. Here, concrete material could not be used freely. In business arithmetic and village administration a good deal of concrete material for teaching purposes could be made available through life situations. But, this was not the case in other subjects. In physiology particularly, film-strips were necessary to illustrate the systems of human body. In Health, film-strips were necessary for teaching foods, their values, sanitation and ideal villages, different types of diseases, etc. A list of film-strips used and the topics covered through them is given in the course of this chapter.

IV.25 The second step in this procedure, was to prepare notes on the matter to be taught. This was done at the centre in the monthly meetings of teachers, the matter was cyclostyled and supplied to the teachers. The topics to be taught were first discussed with the teachers with the help of notes and film-strips. The classes were visited periodically at least once a month and sometimes more often. During this visit, film-strips were shown to pupils and the teaching matter thoroughly discussed. About four to five film-strips to cover the topics were shown. Each film-strip was followed up by a brief discussion. The topic was then followed up by the teacher in his usual daily work and was fixed by him. During the next visit, the film-strips shown on the previous occasion were first reviewed and then the next ones were taken up. This served as a review of the work already done.

IV.26 A list of film-strips used in the course of the year for developing the subjects is given below:

Physiology, Health and Hygiene

Here, the objective was to give an idea of the systems of the body. Hence, the following film-strips came in very handy for the purpose:

(1) Human body (C.G.) which deals in short all the important systems of the body.

(2) Circulatory System (G.B.S.) in colour describing the circulating system.

(3) Nervous System (G.B.S.) in colour.

(4) Respiratory System (G.B.S.)—describing the lungs and the breathing process.

(5) Elimination System (Colour)—describing the four organs—skin, kidneys, lungs and the colon.

(6) Human skeleton showing the bones, joints and muscles.

(7) Sense organs—vision, touch and taste (in colour).

(8) Hearing and smelling organs (in colour).

(9) Cells and tissues.

(10) Muscles (in colour).

These could give a clear picture of human physiology to children.

IV.27 The next topic in which film-strips were used was Health and Hygiene. Here, emphasis is laid on village sanitation, preven-

tion and causes of communicable diseases, dangers of flies, mosquitoes, and proper housing, clean water and proper disposal of refuse including pit latrines, water-seal latrines, etc.

The film-strips used in connection with food and health are given below:

- (11) Balanced diet (T.C.M.)
- (12) Diet for low-income groups (T.C.M.)
- (13) Food and Health (C.G.)
- (14) Carbohydrates and Calorie, (C.G.)
- (15) Fats and Proteins (C.G.)
- (16) Minerals, Salts and Vitamins (C.G.)
- (17) Man and Food (Hulton)

Following are the film-strips used for teaching communicable diseases:

- (18) Fly—our worst enemy (T.C.M.)
- (19) How to keep healthy (T.C.M.)
- (20) Small Pox (T.C.M.)
- (21) Cholera (Ama)
- (22) Tuberculosis (Ama)
- (23) Malaria (Ama)
- (24) Water-seal latrines (T.C.M.)
- (25) Care of eyes (Ama)
- (26) Poor family living (T.C.M.)
- (27) Life History of Fly (V.Z. India)
- (28) Life History of Mosquito (V.Z. India)

Thus, a fairly large ground, in the subject—Health could be covered by the 28 film-strips mentioned above.

IV.28 Agricultural Science is the subject in which also film-strips were used extensively for teaching purposes. Of course, wherever possible, knowledge was correlated with activities in progress, but for a logical and scientific understanding of the subject—especially Botany and soil—film-strips came to be very handy. A list of film-strips used in teaching this subject is given below:

- (29) Soil and its composition—I (C.G.)
- (30) Soil and its composition—II (C.G.)
- (31) Vegetative Reproduction (C.G.)
- (32) Living Plant (C.G.)
- (33) Pollination (Hulton Series)

- (34) Growing more Food (T.C.M.)
- (35) Control of plant diseases (T.C.M.)
- (36) Rat—a deadly enemy (T.C.M.)
- (37) Control of plant diseases (T.C.M.)
- (38) Poultry Keeping (C.G.)
- (39) Poultry (T.C.M.)
- (40) Plant Life.
- (41) Dispersal of Seeds.
- (42) Earthworms.
- (43) Locusts and Grasshoppers.
- (44) Living animal.

IV.29 The next subject in which film-strips were used for teaching, was knowledge of India—its past and present. Here, film-strips on the Geography of India—A.L. Mervyn Studio, No. 1-20 and Civics No. 1-10 were of great help. They could give the students glimpses of the past and present of India, different States and occupations of people. The rivers of India, river valley projects and other plan developments could be explained concretely through these pictures. Besides these, the Gangetic Valley, the Indus Valley and the Deccan Plateau of C.G. were also used. The Civics film-strips were used to give an idea of the functioning of the Legislatures, our administration and also a historical development of independence.

IV.30 Coloured film-strips of Hulton Series on children in many lands were used to give students an idea of conditions of life in other countries, as Polar regions, hot deserts, grassy lands, lumbering forests and fishing countries. Film-strips on grass lands and ever green forests (Ama) were used to acquaint students with these natural regions of the world. Film-strips of UNESCO were useful for giving an idea of the United Nations. In this group, the number of films-trips was as under:

India and States	25
Civics	10
Other regions	10
Astronomy and Physical Geography	10
	<hr/>
	55
	<hr/>

Thus the total number of strips used came to 100 including some on stories and arithmetic as mensuration.

IV.31 The progress of work in the academic year with brief details has been given above. One aspect of the work, viz., testing and evaluation has not been included in this chapter, since it will be dealt with in the next chapter. To ensure adequate work, students were required to maintain files of cyclostyled materials supplied to them, note-books in which written work was done datewise and teachers were required to maintain daily diaries of the work done in the continuation education class.

CHAPTER V

Evaluation of the Experiment

IN any experiment, evaluation forms a very important part because only through evaluation we can know whether the experiment is yielding satisfactory results or not. There are several methods of evaluating an experiment; but the most common method is that of testing the progress periodically. The experiment of continuation classes was also evaluated by periodical tests. This chapter explains the method and results of evaluation.

V.2 The testing programme undertaken in the continuation education classes can be divided into two parts. The first part consists of three quarterly evaluation tests given during the progress of the experiment. These tests were given as under:

Test No.-I: Consisting of 6 questions with subquestions for each question given in August, 1963. The subquestions numbered about 30 in all.

Test No.-II: Consisting of nine questions with subquestions given in December, 1963.

Test No.-III: Containing about fifty items covering all the five subjects given in March '64.

V.3 The second part of the testing programme was the final evaluation test on the curriculum at the end of April, 1964. This was treated as an examination to judge how students fared in the examination. For this test, application forms were got filled in by students like any other public examination and the examination

was held in the central hall of the Mouni Vidyapeeth at Gargoti. Arrangements for seating and supervision were made on the same lines as in other public examinations. The question-paper which contained 50 items was got cyclostyled and given to candidates who were also supplied answerbooks for writing the answers. The paper was set for a period of three hours.

V.4 The tests given to students have been given as Appendix III to this report. The first three tests were used mainly for finding out the weak points of children in their studies and emphasising them. The fourth test was fully assessed and marks awarded. A study of the fourth test was also made to detect the weak points of children and remedial measures were taken subsequently, giving emphasis on weak points.

V.5 The questions set were all modelled on the new type tests consisting of short questions. These consist of filling in the blanks, multiple choice and filling details in maps. Some samples of these tests are given below:

Test-I-Question I(b)

Retain the correct word and score out the others in the brackets in the following:

(i) Starches are found in (rice, oil, salt).

(ii) Fats are contained in (ground-nuts, eggs, potatoes)

Test-II contained a question on drafting an application to the Mamlatdar of the Taluka for arranging for mass vaccination, in view of the prevalence of Small Pox in the area. The test contained a number of short questions and filling in blanks.

Test-III contained questions on all the five subjects of the curriculum done in the class.

Test-IV which was the final test contained fifty short questions.

V.6 The three quarterly tests were used mainly for diagnostic purposes. After the tests were given, the teachers located those questions which were poorly answered and located the weak points. These percentages of all the centres were collected and special instructional programmes based on the weak points were arranged to make up the deficiencies. The fourth quarterly test which covered all the work done during the year was used for assessing

students' achievement. The scores of pupils in this test are given in the table below:

Table 1.

Frequency table showing the scores of students in the final test:

Class interval	Frequency	C.F.
5—9	1	1
10—14	3	4
15—19	2	6
20—24	7	13
25—29	6	19
30—34	7	26
35—39	10	36
40—44	8	44
45—49		
	<hr/> 44	<hr/>
Mean Score		...
Median Score		... 30
Standard deviation		... 31.5
Standard error of the mean I		... 9.5
		... 1.5

The mean score is 30, i.e. 60%. It is obvious that on an average students have got 60% marks. If we take 35% of the total marks as the passing standard, 17 marks out of 50 would be the passing standard. Out of the forty four students who appeared for the test, only 7 students got marks less than 17 i.e. 35%. This works out as 16% out of the total number. In view of these results, we can assume that the syllabus was well mastered by the students and the failure, according to the usual standard of 35% of the total marks for passing, was only 16%.

V.7 Along with the mean score of the candidates' performance, the means of wrongly answered questions and questions omitted were also found out. The mean of questions omitted was 11 and wrongly answered questions was 9. In terms of percentages, the results are given as under:

	Percentage
Mean of correctly given responses :	60
Mean of wrongly answered questions :	18
Mean of questions omitted :	22
	<hr/>
Total :	100

It was then necessary to find out the percentage of incorrectly answered or omitted questions so that they could be stressed in a follow up programme to be organised after the test in June. As such, the percentages of correct responses for each question were calculated. The items taken up for further drill in the follow up are given below :

- (1) Preparing bills from given rates and quantities purchased.
- (2) Reading tables and calculating simple interest, compound interest and present values of Defence Savings Certificates.
- (3) Filling in an outline map of India with details.

V.8 Accordingly a scheme of practice-work was prepared on these items and followed up. Students were given outline maps for filling in details of India. Large scale outline maps were used for filling in details. Cyclostyled ready reckoner tables were also supplied to children and a number of sums drawn from practical situations were given for working. Bills commonly got from shops were used for study and students were given training in preparing bills of articles they wanted to purchase. The question on drafting applications had been omitted by a large number of students. Hence, further practice in drafting applications and letters was also given in these classes.

V.9 Another method of evaluation followed in this case was comparing the scores of these students with the scores of students in upper primary grades. Generally, in experimental work, an experimental group and a control group are taken for comparison. Here, there was no control group, since the experiment did not involve any method of teaching, but the experiment was only of trying out a syllabus on a group of students. However, we thought that it would be worth while to compare the achievements of the pupils of the continuation education classes with the students of upper primary schools. For this purpose, the final test that was given to the continuation education classes was also given to pupils of Grade V and VI in the local primary schools. It was noticed from the results that the mean percent score of pupils of Grade V on this test was 20, and that of Grade VI was 49, as against 60 of the continuation education group. The difference obviously is due to the following factors:

- (i) The syllabus of the continuation education class laid greater stress on practical aspect which the primary school syllabus did not do.
- (ii) The methods of teaching used for the continuation education classes differed considerably from those of primary classes and must have been far superior in respect of fixing matter.

V.10 However, the conclusion from this comparison is obvious. Students in the continuation education classes are not, in any way, inferior to VI Grade pupils, but on the other hand, better than those, in so far as the subjects taught are concerned. The students of the continuation education classes have made adequate and satisfactory progress in the syllabus given to them.

CHAPTER VI

Summary and Conclusions

THIS chapter gives a summary of the experimental work done and the conclusions drawn from it. This will give an idea of the whole work in a nut-shell. The object of the experiment was to try out a new alternative syllabus of studies in continuation education classes. The concept of continuation education as followed in this experiment is, therefore, defined in the first chapter and also the need for trying out this syllabus. Continuation education is intended for children who leave school after grade IV and do not join upper primary schools. Such children are employed on farms or in shops during day time. Hence, continuation education is a part-time education in evenings. It is intended to be an alternative pattern of education under the scheme of compulsory education for the age range of 11-14. The need for such education will be felt more in rural areas where children are required by parents to assist them on farms or in wage earning.

VI.2 Second chapter explains the technique of experiment. A syllabus was drafted for these classes and five continuation education classes were started in five villages. Four of these were run by school teachers and one by a non-school teacher. The class run by a non-school teacher came to be closed after a month. The remaining four classes were run for a period of ten months. They had an average attendance of twenty children between the age range of 12 to 17, with the average age of 13. Most of these students

worked on farms as labourers and came to attend classes in the evenings.

VI.3 Same chapter deals with the curriculum implemented in these classes. It was framed taking into account the needs of these children. It consisted of six subjects as under:

- (1) Health and Hygiene;
- (2) Business Arithmetic;
- (3) Agricultural Science;
- (4) Knowledge of our country;
- (5) Village Administration; and
- (6) General Reading.

The curriculum drawn up differed considerably from the curriculum of upper primary schools. The latter was intended to prepare children for secondary schools, while the former (continuation education curriculum) to fill up the gaps in their essential equipment of education.

VI.4 A section in the same chapter deals with the syllabus in the five subjects of the curriculum. A special feature of the syllabus is that it is divided into two parts, one part indicating the activities to be organised and the other part, the knowledge content to be imparted in these classes. A subject is ordinarily covered by fifteen to twenty activities. The activities include projects, studies, visits, preparation of charts and filling outline maps. The sixth subject includes books to be read by students for general reading.

VI.5 Another section of the same chapter deals with teaching methods. These methods differ from those of upper primary schools. The main reasons are:

- (i) The time at the disposal of these students is limited and a good deal of matter is to be compressed within a short time;
- (ii) The students have no textbooks for study. They depend upon teaching and digests prepared for them.

The methods adopted in these classes were of the following type:

- (i) Activities were to be organised and then followed up by discussion. Such activities would relate to visits to the Post Office, Panchayat Office, Cooperative Stores, etc.
- (ii) A good deal of matter in Health and Hygiene, Knowledge

of India, Agricultural Science to be covered by visual aids, and film-strips projected through a film-strip projector working on petromax.

- (ii) Digests to be prepared and these digests to be studied by children as textbooks. Digests were to be prepared every month on the subject matter to be covered during the month and cyclostyled copies of the digests to be supplied to children.

VI.6 Third chapter deals with problems concerning organising these classes in rural areas. These are based on the experience gained in running these classes. It has been suggested that these classes should be entrusted to senior primary school teachers who should be remunerated for the extra work done. The equipment of the school and its teaching aids should be used for this class and the continuation classes should be treated as regular parts of the primary school. As such, the organisation and supervision of these classes should be entrusted to the local education authority. A regular certificate examination should be instituted for the course. The teachers conducting these classes should be put through a short orientation course of one months duration. During this course they should study the background of the syllabus and also the new techniques of teaching introduced for these classes, as activity teaching, use of mechanical visual aids and preparation of digests for study. These classes should be closely integrated with the top classes of primary schools whenever this is possible.

VI.7 Fourth chapter deals with the actual working of these classes during the period of the experiment. The chapter also refers to the visits of the research staff, quarterly meetings of students of all the classes, arranged for coordination of the work of these classes.

VI.8 Fifth chapter deals with evaluation. In all, four tests were used. Of these, the first three tests were given on a quarterly basis and error studies made were used for further work on the deficiencies. Fourth test covered the whole syllabus. All the tests were of the new type and consisted of short questions, such as filling in the blanks, multiple choice, matching tests and so on. The scores on the fourth test, which was the final

evaluation test, were studied. It was noticed that students had an average score of 60% on the whole test. On the basis of passing standard of 35%, only 16% of the students got less than 35%. The questions which had been omitted by students or were wrongly solved were further taken up for study and practice for one month in the next academic year. The final test given to the continuation education students was also given to students of V and VI for comparing the achievements. It was noticed that students of Grade VI in upper primary schools scored on the test at an average of about 49% while the mean score of the students of Grade V was 20%.

VI.9 The main conclusions that can be drawn from this experimental work are given below:

(1) It is desirable to start a course in continuation education for school leavers after Grade IV, to fill in the gap in their education.

(2) The duration of such a continuation education course in the first instance should be one academic year.

(3) The curriculum and syllabus for this course should be on the lines of digests worked out and tried in the continuation education classes under this project.

(4) Such classes should be held in the evening on part-time basis.

(5) Such classes should be entrusted to local education authorities for management and supervision.

(6) Teachers doing extra work at these classes should be remunerated on the basis of work done.

(7) Visual aids and activity methods should be used in these continuation education classes so that much matter could be condensed within a short span.

(8) The Department of Education should institute a continuation education certificate to provide an incentive to students for joining these classes.

(9) Teachers running these classes should be given an orientation on the work, subject matter and teaching methods to be adopted in these classes.

(10) It is not necessary to prescribe any textbooks for these classes, but digests of the matter to be taught should be given to students for study.

(11) The entire emphasis on the syllabus, teaching methods and

work to be done by pupils should be based on rural development in the villages where the classes are conducted.

(12) Some linking of these classes to the primary education pattern of the area may also be provided for so that students reading in these classes may join primary education classes if they so desire.

VI.10 This experiment has attempted to draw up a scheme of work for the continuation education class for one academic year. If the idea that continuation education should be parallel to upper primary classes gains ground, it will be necessary to provide a scheme of work for the three years of the continuation education period. The parallelism will run as under:

Primary Schools

Grade-V

Grade-VI

Grade-VII

Continuation Schools

First Year

Second Year

Third Year

Hence, it would not be desirable to rest with the one year scheme that we have drawn up, but continue it for the second year and third year so that children attending continuation education schools will be under instruction for a period of three years, after Grade IV, just like children attending upper primary schools, the only difference being in the syllabus, methods of teaching and timings of these classes. The curriculum for the entire course will be the same as we have drawn up. But the syllabuses for the first, second and third years of the continuation education classes will have to be different, with a common core developed on concentric lines. It would be worthwhile to organise, therefore, a three years' continuation education course and try it out in some classes and work out details of syllabi, teaching methods and organisation of work.

APPENDIX—I

*Syllabuses Of The Continuation
Education Subjects*

I. HEALTH AND HYGIENE

<i>Knowledge Content</i>	<i>Activities</i>
1. Criteria of good health, personal cleanliness, what it constitutes and how it is effected, use of soap, bath, cleanliness of teeth, good and healthy food—ingredients of food, cooking methods, physical exercise, exercise to different parts of the body, games and sports and their value, medical and health inspection.	1. Washing, using soap, clothes, hands, etc.
2. Public health, drainage, cess-pools, breeding of mosquitoes, cleanliness in houses and streets, cleanliness of wells, public places for urinals and lavatories. Disinfectants—water supply—ventilation of houses.	2. Examining different articles of diet and preparing a food ingredient chart.
3. Human physiology, circulatory, respiratory, digestive and excretory systems—common disorders and treatments—blood, air breathing—lungs—eye, ear throat.	3. Some physical exercises and asanas.
4. Infectious diseases, causes of the same, prevention—campaign against flies, mosquitoes, rates,—Inoculation, segregation—small pox vaccination.	4. Some games—volleyball, ring, tennis, kabaddi.
5. First aid—bandaging splints, pressure-points, artificial respiration, poisons, burning precautions, electric shocks, drawing snake bites.	5. Different athletics.
	6. Study of the drainage system of the village.
	7. Study of the water supply system and purification of wells.
	8. Compost pits and trench latrines.
	9. Gopuri and Sofa <i>Sundas</i> W.C.S.
	10. Study of the torso and other models if available.
	11. Study of preserved parts if available and diagrams and Physics charts.
	12. Visits to health centres and dispensaries and visits to patients' families suffering from diseases.
	13. Visits to inoculating and vaccinating centres.
	14. First aid practice in bandaging, lifting.
	15. Practice in dressing wounds—using antiseptics.
	16. Fomenting and enema treatment.
	17. Using simple remedies in minor ailments as indigestion, constipation, cold, headache, etc.
	18. Visit to some village homes to study lighting and ventilation arrangements.
	19. Spraying stagnant ponds, homes with D.D.T. and disinfectant materials.

II. BUSINESS ARITHMETIC

<i>Knowledge Content</i>	<i>Activities</i>
1. Use of common metric measures of weight, length and capacity. Fundamental operations using these. Preparing bills, idea of profit and loss. Rule of three in simple operations. Decimal notation and use of decimals in the fundamental operations.	1. Practice in weighing and selling goods in shops.
2. Postal transactions. Purchase of Post cards, Inland letters, Packets, Envelopes, Money order transactions, Parcels. Reading Ready Reckoners for calculating prices.	2. Practice in preparing bills.
3. Writing out daily accounts, profit and loss, averages and percentages.	3. Preparing Ready Reckoners of Postal rates and reading them.
4. Investments and Loans, Interest—Saving Bank & current accounts. Longterm fixed deposits. National and Defence Savings Certificates. How to calculate simple interest in Banks, Compound Interest using Interest tables—Interest on loans.	4. Use of ready reckoners for calculation of Interest.
5. Measurement of land, areas of triangles, rectangles. Surveying field-books and calculation of areas. Properties of right-angled triangles and trapeziums in area work.	5. Use of compound Interest tables.
6. Volumes of objects seen—as tanks, cylindrical tins, drums, etc.	6. Studying the surrender and maturity values of Defence and Saving Certificate.
7. Citizenship Arithmetic, Taxes of the Panchayat and Parishad. Income and expenditure of the Panchayat. Life Insurance premia. Types of Insurance. Income Tax—how calculated.	7. Writing out a Postal money order.
8. Travel Arithmetic. Reading Railway and Bus Time-Tables.	8. Studying cheque books and cheques and drafts.
	9. Opening a Savings Bank Account.
	10. Maintaining personal accounts and family accounts.
	11. Study of the tax system of the local Panchayat and some other neighbouring Panchayats.
	12. Studying the budgets of Panchayats.
	13. Calculating Interest on Savings Bank Accounts and verifying the same.
	14. Drawing up a budget for a farmer.
	15. Ascertaining rates of foodstuffs in the local market and preparing family budgets.
	16. Studying the prospectus of Life Insurance Corporation, and calculating Premia for different Insurance Schemes.
	17. Calculating local Panchayat taxes of some families.
	18. Calculating octroi taxes on some commodities brought into the Panchayat area.
	19. Calculation of Income Tax on

- Calculation of fares of passengers and parcels.
9. Modes of remitting money, Postal money orders, cheques of different types, Drafts on Banks. Reserve Bank of India remittances. Precautions in sending money. Commission.
 20. Calculation of Land Revenue and farm income and farm rent.
 21. Calculations of Taqavi and other loans for cultivation and studying their conditions of repayment.
 22. Calculating farm areas and drawing up sketches.
 23. Calculating areas of rooms and floors.
 24. Reading graphs showing the progress of local Co-operative Society.
 25. Reading a Railway timetable and planning journeys to near-about places and calculating cost.
 26. Computing volumes of drums and water-storage tanks.

III. AGRICULTURAL SCIENCE

Knowledge Content

Activities

1. Processes of agriculture—ploughing, harrowing, clod crushing. Study of soil and its composition. Fertility of soil, use of manures. Different types of manures—organic and inorganic—compost pits—availability of manures.
2. Good seeds—how they germinate. Seed production, and dispersal. Plant food, functions of root, stem, leaves. Supply of carbon to plants. Nitrogen to plants.
3. Insects and pest—life study of insects. Insecticides—spraying. Preservation of food grains.
4. Irrigation problems—Water lifting—need of water to plants. Oil Engines—their working.
5. Weeding, Intercultivation, hoeing. Rotation of crops, principles. Harvesting methods. Harvesting of food grains, pulses, cotton and other cash crops—sugarcane, groundnuts.
6. Marketing problems. Co-operative Marketing Societies.
7. Animal Husbandry. Life history and study of Poultry birds, Dairy animals—their feed and care. Disease of Poultry and cattle.
8. Other side incomes—Beekeeping, Sericulture, Khadi and Village Industries.
9. Weather conditions for farming. Rainy, cold and hot weather. How rain heat and humidity are measured. Weather forecasts.
1. Participation in some farm activities as ploughing, harrowing, weeding, clod crushing.
2. Preservation of seeds and sowing seeds in garden beds.
3. Studying the growth of plants in gardens, their roots, stem, leaves and their uses.
4. Preparing the Oxygen, Carbon and Nitrogen cycle diagrams.
5. Collection of Larva and Pupa and observing their growth. Drawing diagrams.
6. Participating in watering garden plants.
7. Preparing a plan of rotation of crops for local farms.
8. Handling poultry birds and eggs.
9. Feeding dairy animals and bullocks.
10. Participating in harvesting of groundnuts, paddy.
11. Visit to sugarcane crushing and jaggery manufacturing plants.
12. Measuring farms under different crops.
13. Visits to Sericulture and Apiary farms.
14. Visits to Ambar Charkha spinning centres.
15. Visits to local industries—as carpentry, smithy; handlooms and pottery.
16. Spraying on farms with D.D.T., Gamaxin.
17. Study of weather records and maintaining the same.
18. Recording day to day rainfall and preparing charts.
19. Maintaining records of pressure and temperature periodically.
20. Periodical visits to Co-operative

Marketing Societies and collection of data regarding prices.

21. Starting and working on oil engine.
22. Cleaning and working a bicycle.
23. Studying the working and cleaning of agricultural implements.

IV. GENERAL INFORMATION ABOUT OUR COUNTRY

Knowledge Content

Activities

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| <ol style="list-style-type: none"> 1. India, its states. Physical features and natural resources. Crops, industries, people and languages—occupation. 2. Development Plans. Multipurpose projects. Projects in the State and the Union. Railway and Transport system, moving from one place to another. 3. National days—15th August, 2nd October, 26th January. Story of our independence. 4. Our National Heroes—Shivaji, Rana Pratap, Ashoka, Tilak, Budha, Tagore, Vallabhabhai Patel. Moghul and British domination. Indian National Congress. 5. Our religious festivals as symbols of culture—Ashadhi Ekadashi, Narali Pournima, Dasehra, Ganesh Chaturthi, Diwali. 6. Other Indian religions—Buddhism, Muslims, Parsism. 7. Our administration pattern—Elections, Cabinet Ministers, Parliament, Governors, Taxation and Budgets. | <ol style="list-style-type: none"> 1. Studying outline map of India and filling in States, Physical Features, Road and Rail systems, Transport. 2. Locating our multipurpose Projects and industries in the map of India. 3. Cutting out news items and pictures and preparing books of cuttings. 4. Celebrating all the national days—15th August, 2nd October, 26th January. 5. Participating in the reconstruction programmes of 2nd October. 6. Observing Punyatithi of Tilak, Shivaji, Tagore, Patel. 7. Observing birthday of Nehru, Radhakrishnan. 8. Celebration of Ganesh Chaturthi, Dasehra and Diwali. 9. Reciting religious songs of Tukaram, Ramdas, Gnyaneshwar, etc., on those days. 10. Studying a diagram of our administrative pattern. 11. Listing names of Ministers of the State and Centre and studying their functions. 12. Studying State Budgets. 13. Studying Railway map and places of religious and historical importance. 14. Writing daily news sheet in the village. 15. Planning an excursion to Koyana Hydro Electric and Radhanagari Hydro Electric Projects. |
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V. VILLAGE DEVELOPMENT

<i>Knowledge Content</i>	<i>Activities</i>
1. Important village institutions—Panchayats, Co-operative Societies, School, their place in village development, their finances and progress.	1. Visit to village Panchayat while working.
2. Panchayat-elections. Budgets. Duties of Panchs and Sarpanchs.	2. Gramsabha meeting attendance.
3. Panchayat Samiti, its powers and function.	3. Study of the taxes and budgets of the Village Panchayat.
4. Zilla Parishad, its composition, powers and functions. Its role in village development.	4. Studying the elections, participating in election.
5. Co-operative Societies, its role—its functions, share capital.	5. Visit to Panchayat Samiti Office and studying the development programmes in operation.
6. Village School—its institutions—social education programmes.	6. Letters to Panchayat Samiti and Zilla Parishad regarding difficulties of villages.
7. Letter writing—simple business letters.	7. Studying the Taluka and District maps and its physical features, potential resources.
8. Applications, reports of events.	8. Visit to the different types of societies and studying their budgets.
9. Agricultural and health improvement.	9. Organising a school day function.
10. Planning of village development.	10. Working as village librarian and writing news letters.
11. Village dramas, folk songs, Bhajans and Lavanis.	11. Participating in the sports programmes of the Youth Club.
	12. Participating in village dramas, Bhajan Programmes.
	13. Farmers' camps, Literacy classes and literacy work.
	14. Talks to villagers on development.
	15. Organising an exhibition for village development.
	16. Story-telling to villagers.

